Vy Bui

ENGR652 - Homework 6

clc, clear, close all;

% Load pout.tif image and display the size

img = double(imread('pout.tif'));

[sy,sx]=size(img);

im(img);

% Rotation matrix

theta=pi/4;

T=[cos(theta) sin(theta) 0; -sin(theta) cos(theta) 0; 0 0 1];

a = [1 0 0;0 1 0; -floor(sx/2) -floor(sy/2) 1];

b = [1 0 0;0 1 0; floor(sx/2) floor(sy/2) 1];

T = a\*T\*b;

tform=maketform('affine',T);

% Input pixel coordinates using meshgrid

[W,Z]=meshgrid(1:sx,1:sy);

IN = [W(:)'; Z(:)'];

OUT = tformfwd(IN',tform)';

X = clip(OUT(1,:), 1, sx);

Y = clip(OUT(2,:), 1, sy);

X = reshape(X, sy,sx);

Y = reshape(Y, sy,sx);

out = interp2( W,Z,img, X,Y, 'bil' );

im(out);

